

Where the Birds Are

by Charles D. Lovell

Ducks, geese and swans, collectively known as waterfowl, account for only five percent of the bird strikes to USAF aircraft, but these large birds pose a substantial threat to military aircraft during migration periods and daily feeding flights. The USAF lost an E-3 AWACS and 24 crewmen after the aircraft struck Canada geese at Elmendorf AFB in September 1995. If you use information about waterfowl migration, movement and activity patterns to schedule training flights during low-risk periods, you can reduce the risk of waterfowl strikes.

Migration- Ninety percent of migratory flights occur below 5,000 feet MSL; however, migratory waterfowl have been reported as high as 20,000 feet MSL. During migration, waterfowl fly at altitudes that depend on terrain and distance (the longer the flight, the higher the altitude).

The fall and spring are the two peak periods during which North American waterfowl migrate. Fall migration is far more noticeable than spring migration. Fall migrations tend to move in large flocks to wintering areas in a short time, whereas spring migrations are slower and more irregular. Depending upon latitude, fall migrations may begin as early as August and run into December; spring migrations may begin as early as February and run through May. Peak months of migration are October-November and March-April.

Many factors influence migration; changes in the amount of daylight probably influence migration the most. If food is plentiful, many species will delay migration until they deplete their food supply. Also, weather conditions influence the onset, delay, and magnitude of migrations. Large-scale migrations, especially in the fall, often coincide with major weather fronts that produce favorable wind patterns.

Waterfowl tend to feed and build up fat reserves for migration during the day and to migrate mainly at night. Many species will fly directly from their breeding grounds to their wintering grounds, while others will periodically stop to feed between their

breeding and wintering grounds. For example, snow geese migrate both non-stop from Hudson Bay to the gulf coast of Texas, and on occasion, stop to replenish fat reserves to continue their flight.

There are four major migratory flyways in North America – Atlantic, Mississippi, Central, and Pacific. Results from the 1996 midwinter waterfowl survey conducted by state wildlife agencies and the U.S. Fish and Wildlife Service tallied more than 27 million waterfowl in the U.S.

The Mississippi flyway contained the largest number of birds (11 million), followed by the Pacific (6.5 million), Central (5 million), and Atlantic (3 million). Most of these migratory waterfowl winter in national and state wildlife refuges in southern and coastal states where water doesn't freeze. In coastal areas, large "rafts" of sea ducks and other waterfowl species will gather in bays, like the Chesapeake Bay, and along the coast.

Movement and Feeding Flights- During the winter, waterfowl rest in areas in which they feel safe from danger. They start flying at dawn to search for food. Once the birds find it, they will spend most of the day feeding at that location. As the sun sets, they again take to the sky to return to a safe roosting area. In general, birds fly below 1,000 feet AGL to and from food sources.

Avoiding Waterfowl Strikes- Because weather patterns vary, there is no set day when migrations start. It helps to keep in close contact with refuge or state biologists about the status of migratory waterfowl in areas where low-level flights occur. These biologists often provide specific information about daily waterfowl-flight patterns between roosting and feeding areas. This information helps determine the specific start or end of migrations for a particular year, and aids in scheduling flight-training missions and avoiding bird strikes.

Mr. Lovell is a wildlife research biologist with the National Wildlife Research Center in Sandusky, Ohio.

Mississippi flyway



Atlantic flyway



Pacific flyway



Central flyway



For the first six months of 1997, the Navy and Marine Corps reported 13 incidents involving bird strikes. Here are a few:

A F-4J encountered a flock of sea gulls on the takeoff roll. Feeling several hits, the pilot aborted. A Hornet took a large bird down on the engine just after liftoff and the pilot made a single engine approach, landing in 500 feet with some 1,200 lbs. of fuel. Wright cited pilot error as the cause of the accident.

The same pilot made a go-around on a landing approach.

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POP-UPS

- Bird Strikes and Deer Strike
- Check for Birds Under BASH on the BBS
- Five-Year, \$500 Million Safety Program
- X-Large Helmet Headaches
- Send Us Your ORM Success Stories
- 1996 Grampaw Pettibone Award
- New Firefighting Vehicles
- Polar Turnover
- Lessons Learned on CALL



Bird Bucks

Bird strikes cost the Navy \$70,664,258 from March 1995 to March 1997.

4	FA-18	\$31,413,164
2	AV-8	19,304,745
1	T-45	18,855,000
1	E-2C	684,534
1	AH-1W	190,265
2	F-14	96,560
1	TA-4	69,850
1	T-2	50,140

A deer strike on a T-44A on the runway in February also cost \$48,068.

Bird Brief

What risk-assessment tools does your air wing and squadron use to manage and lower the risk of bird strikes? Do you have a brief sheet that outlines when risks are the highest?

LCdr. Laverne Stella, the air-operations facilities branch head at the Naval Safety Center, has a few suggestions. To help identify when birds may be a hazard to you in your operating area, contact the local NAVFACENGCOM field division. The Department of Interior Fish and Wildlife Office of bird migration can also help. Lastly, check the Naval Safety Center's BBS at (757) 444-7927, DSN 564-7927 (look under BASH).

NASA-Langley to Emphasize Flight Safety

NASA has picked its Langley Research Center in Hampton, Va., to lead a \$500 million, five-year program to make flying safer. It has targeted air safety as a top strategic priority.

This broad-based program will involve the Federal Aviation Administration, Department of Defense, the private sector and three NASA field installations. The NASA Langley staff will do research and coordinate efforts of the other organizations. NASA Langley is located 10 miles from the Naval Safety Center.

Big Guys Wear Tight Helmets

A shortage of HGU-67/P helmets has 4th MAW looking for a remedy. Some Marine aircrew are flying with helmets that don't fit, which could be a hazard in an emergency.

ECP E-4631-97-14 has been drafted and is awaiting funding. Converting the HGU-84/P to the HGU-67/P, as outlined in the ECP, will make more helmets available in the supply system and add one more helmet size (X-large wide) that is not currently available to Cobra aircrew.

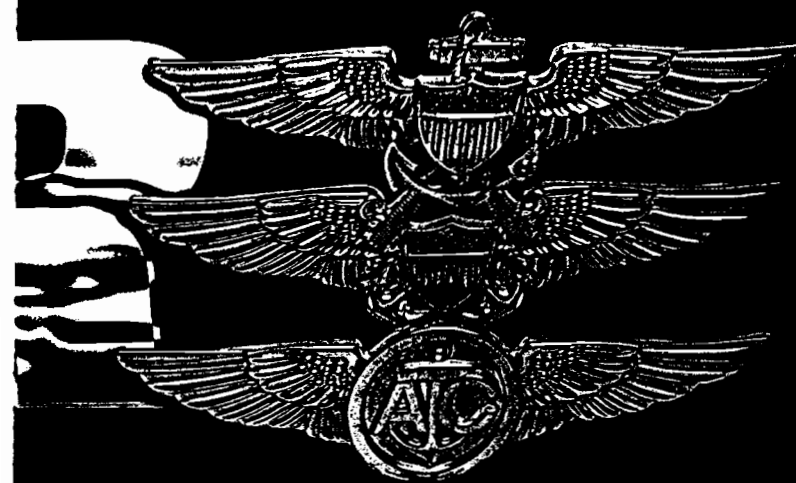
ORM Feedback

Operational Risk Management is an invaluable tool for controlling hazards in the Navy and Marine Corps. Its application is instrumental to how we do business and inevitably could affect every aspect of military life, both on- and off-duty. The CNO and CMC signed their ORM instruction, OPNAVINST 3500.39 and MCO 3500.27, on April 3, 1997. We'd like to hear your ORM success stories. How are you using the principles of ORM to reduce risks to an acceptable level? Do you have any lessons learned? We're interested in how you use ORM to adjust or cancel missions, or to help people devise innovative controls. Tell us if you have gone beyond the operational arena (e.g. recreational activities, off-duty events, etc.).

We want to get the word out, and the feedback from your experiences may help others. Please send your inputs to the Approach Editor, Code 71, LCdr. Mark Enderson (757) 444-3520 Ext. 7245 (DSN 564), or e-mail: menderso@safecen.navy.mil

Pettibone Award Winners

Lt. Billy R. Carter of HSL-42 won the individual Grampaw Pettibone Award for 1996 while HSL-42 won the unit award. The awards go to the individual and organization contributing the most toward aviation-safety awareness through publications.



Navy Orders Firefighting Vehicles

The Navy has awarded a \$8.2 million contract for 50 P-25 firefighting vehicles to Entwistle Co., Hudson, Mass. Delivery to the fleet will begin next year. Three vehicles will go to each aircraft carrier and the rest to L-class ships.

Navy to Vacate Antarctica

Since Adm. Richard Byrd's historic flight to the South Pole in 1929, the Navy has led the way in opening Antarctica for scientific exploration and safe travel over its polar regions. With its mission complete, the Navy will formally turn over responsibility for logistic support of the U.S. Antarctic Program to the U.S. Air Force in a ceremony on February 21, 1998, at Christchurch, New Zealand.

The Navy will hold another ceremony on March 12, 1998, at the Naval Construction Battalion Center at Port Hueneme, Calif. This ceremony will formally disestablish the U.S. Naval Support Force, Antarctica, after 42 years of expeditionary and logistic support on the world's most southern continent.

Lessons Learned on WWW

The Combined Automated Lessons Learned (CALL) Information Center, operated and managed by the Naval Air Warfare Center Aircraft Division (Systems Engineering Department 4.1) at NAS Patuxent River, is now available on the World Wide Web.

CALL hosts the Navy, Air Force and Federal Aviation Administration lessons-learned infobases. It also provides links to Army and NASA programs.

CALL's homepage can be found at <http://www.nawcad.navy.mil/call>. At the homepage, click on the Access Info button and follow the instructions to access more than 5,000 documented lessons learned.

Edited by Bud Baer. Contributors can contact him at (757) 444-3520, Ext. 7246 (DSN 564).

Milestones

Class A mishap-free flight hours

Command	Date	Hours	Years
VAW-113	04/29/97	60,000	30
HMLA-369	05/27/97	35,000	6
NTSU Oklahoma	06/01/97	10,500	9
VP-45	06/02/97	179,000	28
HSL-41	06/02/97	85,000	14.4
HMM-263	06/02/97	40,000	9.5
VS-21	06/05/97	27,200	9
VP-30	06/09/97	321,000	33
HS-10	06/15/97	17,000	4
VAQ-141	06/29/97	6,700	3
VAW-112	07/01/97	52,000	24
VPU-2	07/01/97	36,900	15
VAQ-132	07/05/97	44,990	27
VQ-1	07/10/97	61,000	10
VFA-147	07/12/97	27,650	6

Class A Mishaps

The Navy and Marine Corps had 18 Class A flight and flight-related mishaps before 20 April in FY97. The following mishaps occurred since 10 May:

Aircraft	Date	Command	Fatalities
CH-46E	05/10/97	HMM-164	4
Aircraft struck the water during a deck-landing-qualification flight at night.			
AH-1W	05/23/97	HMLA-167	2
Aircraft crashed approximately 20 minutes after takeoff.			
AH-1W	07/27/97	HMM-263	2
Aircraft crashed into water while returning to ship.			

Class A Flight Mishap Rate

	FY97* thru 7/31/97		FY96 thru 7/31/96	
	No.	Rate	No.	Rate
Navy/Marine	21	1.79	30	2.37
All Navy	11	1.21	19	1.98
All Marine	10	3.79	11	3.57
NAVAIRLANT	4	1.69	4	1.52
NAVAIRPAC	3	1.29	9	3.40
MARFORLANT	4	5.16	6	5.86
MARFORPAC	6	4.72	4	2.74
NATRACOM	4	1.44	2	0.77
NAVAIRES	0	0.00	3	3.14
4th MAW	0	0.00	1	2.99
NAVAIRSYSCOM	0	0.00	1	4.45
Non-MARFOR	0	0.00	0	0.00
Non-TYCOM	0	0.00	0	0.00

*FY97 data subject to change.

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